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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,019	12/15/2003	Gary Lynn Hanley	CGT-120	4149

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EXAMINER	
OMGBA, ESSAMA	
ART UNIT	**PAPER NUMBER**
3726	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,019	HANLEY, GARY LYNN	
	Examiner	Art Unit	
	Essama Omgba	3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-13, 17-23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Cuneo et al. (US Patent 4,020,535).

Applicant, at pages 1-3 of the specification to be known as AAPA, discloses a method for removing a thermal barrier coating from a metallic substrate of a component wherein a waterjet system with or without particulate media (abrasive or non-abrasive) utilizing a liquid-containing jet which operates at high fluid pressures ranging from 5000 pounds per square inch to 50,000 pounds per square inch is used in order to remove thermal barrier coating deposits. AAPA does not disclose a jet system operating at low a pressure that is insufficient for the media to damage the substrate surface. However it is known to remove a desired amount of coating from a substrate surface without affecting the substrate surface by using a dry air blast of glass beads at a pressure from about 20 to about 100psi as attested by Cuneo et al., see column 4, lines 19-23 and 32-40. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have substituted the high pressure waterjet system of AAPA with the low pressure air blast of glass beads taught by Cuneo et al., in order to remove

the desired amount of the coating without affecting the substrate surface. It should be noted that "shot peening", as one of ordinary skill in the art would know, is a treatment in which a surface is subjected to particles driven in an air jet. Applicant should also note that the size of the beads will depend on the size of the holes being treated and it is within the general knowledge of one of ordinary skill in the art to use the appropriate size of beads for the hole being treated. Also the steps of drilling the cooling holes into the component using a laser drilling process and coating a surface of the cooling holes with a thermal barrier ceramic coating are old and well known in the art.

3. Claims 14-16 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA/Cuneo et al. as applied to claims 8 and 18 above, and further in view of Farmer et al. (US Patent 6,663,919).

With regards to claims 14, 15, 24 and 25, AAPA/Cuneo et al. does not disclose the angle at which the air jet is directed at the cooling hole, however Farmer et al. teaches a jet that contains glass beads being directed in a direction generally parallel to the axis of each hole in a process of removing a thermal barrier ceramic coating, see column 5, lines 60-65 and column 6, lines 4-11 and 35-37. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have directed the air jet of the process of AAPA/Cuneo et al. at the cooling hole at substantially the same angle as the cooling hole, in light of the teachings of Farmer et al., in order to facilitate removal of the thermal barrier coating. Applicant should note that directing the air jet at the cooling hole toward a surface of the component opposing

the surface having the thermal barrier coating is an obvious design choice as long as the thermal barrier is easily effectively removed.

For claims 16 and 26, see column 3, lines 19-25 of Farmer et al.

Response to Arguments

4. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.

For sake of completeness, the examiner will address Applicant's arguments as they relate to the Cuneo reference. In response to Applicant's argument that Cuneo teaches an abrasive, as opposed to nonabrasive, method of using of using glass beads to purposely cut into the graphite of the substrate face, the examiner submits that the method of Cuneo teaches how to erode away a predetermined depth of a material to be removed by controlling the air pressure and the size of the glass beads, see column 4, lines 19-23. Therefore one of ordinary skill in the art, when presented with both the teachings of AAPA and Cuneo, would find it obvious to substitute the system of AAPA with the one taught by Cuneo in order to be able to control the removal depth of the coating barrier. Applicant should note that the test for obviousness is not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Regarding the qualification of the glass beads of the method of Cuneo by Applicant as being "abrasive media", the examiner submits that in as much as the depth of material removal is controlled in the method of Cuneo, only the desired depth of material will be eroded from the substrate surface. The abrasiveness (erosion of the underlying substrate) is a function of the jet pressure and of the glass beads size. It should also be noted that Applicant discloses glass beads as being appropriate non-abrasive media for the claimed invention.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Essama Omgba
Primary Examiner
Art Unit 3726

eo
November 10, 2006